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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10694-5 (1987): General Requirements for Rims for Automotive Vehicles, Part 5: Moped, Motorcycle and Motorcycle Derivative Rims [TED 7: Automotive Tyres, Tubes and Rims]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

GENERAL REQUIREMENTS FOR
RIMS FOR AUTOMOTIVE VEHICLES

PART 5 MOPED, MOTORCYCLE AND MOTORCYCLE DERIVATIVE RIMS

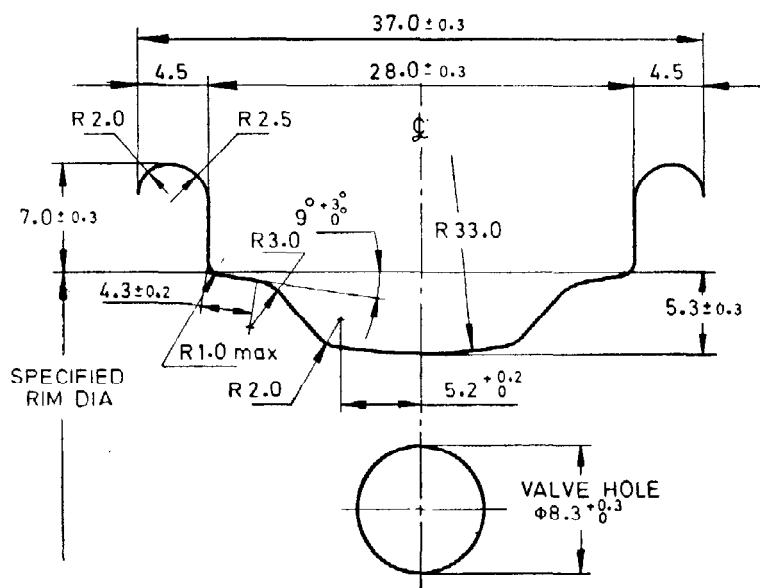
(First Revision)

1. Scope — Covers the requirements of rims for mopeds, motorcycles and motorcycle derivative tyres. This standard covers only spoked rims.

2. Nomenclature — Shall be in accordance with IS : 10694 (Part 1)-1984 'General requirements for rims for automotive vehicles: Part 1 Rim nomenclature, designation, marking and measurement'.

3. Material — The rim shall be manufactured from suitable cold-rolled steel strip conforming to IS : 513-1986 'Specification for cold rolled low carbon steel sheets and strips (third revision)'.

4. Dimensions — The contours and dimensions for mopeds, motorcycles and motorcycle derivative rims shall be as given in Fig. 1 and Table 2.



All dimensions in millimetres.

FIG. 1 CONTOUR DIMENSIONS FOR TAPERED BEAD SEAT RIMS OF NOMINAL WIDTH CODE 28

5. Rim Diameter, Circumference and Width Code — Shall be as given in Tables 1, 2 and 3. The bead seat rim circumference measurement shall be carried out using a tape gauge whose length is related to mandrel diameter. The tape width is related to nominal rim width code and is specified in Table 4. The method of measurement shall be in accordance with IS : 10694 (Part 1)-1984.

6. Designation — The size designation of rims shall include the following in the order given [see also IS : 10694 (Part 1)-1984]:

- Nominal rim width code, and
- Nominal rim diameter code.

Example:

1.50 × 16

Note — Rims were earlier designated by a combination of alphanumeric code and rim width.

Example:

WM2/1.85

TABLE 1 DIAMETERS AND CIRCUMFERENCES FOR TAPERED BEAD SEAT RIM
(Clause 5)

All dimensions in millimetres.

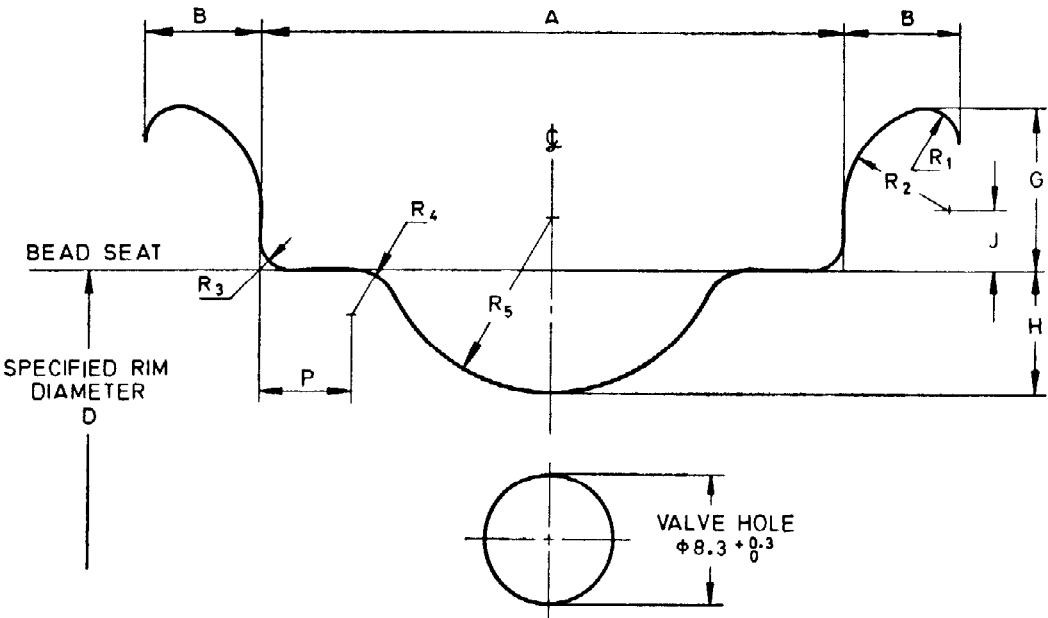
Nominal Rim Dia Code	Specified Rim Dia <i>D</i>	Taping Dia	Taping Circumference +2.0 -0.5	Taping Position	Tape Mandrel Dia	Tape Mandrel Circumference*	Dia of Ball Tape for Rim Measurement
19	484.47	483.26	1 518.20	3.3	483.76	1 519.78	8.0
22	560.67	559.46	1 757.59	3.3	559.96	1 759.17	8.0

Note — The above data are based on a mean bead seat angle 10°30' for circumference checking method [see IS : 10694 (Part 1)-1984].

*Mandrel dimensions include a plus tolerance of 2 mm on circumference.

TABLE 2 CONTOUR DIMENSIONS FOR CYLINDRICAL BEAD SEAT RIMS
(Clause 5)

All dimensions in millimetres.



Nominal Rim Width Code	<i>A</i>	<i>G</i>	<i>H</i>	<i>B</i>	<i>P</i>	<i>J</i>	<i>R</i> ₁	<i>R</i> ₂	<i>R</i> ₃	<i>R</i> ₄	<i>R</i> ₅
	+ 1.0 - 0.5	+ 0.5	+ 1.0 - 0.5	Min	+2.0 -0.0		Min		Max	Min	Min
1.20	30.5	9.0	7.0	5.5	3.0	3.5	1.5	6.0	1.5	5.0	7.0
1.35	34.0	10.0	7.5	6.5	3.5	4.0	2.0	6.5	1.5	5.0	7.0
1.40	36.0	10.0	8.0	6.5	3.5	4.0	2.0	6.5	1.5	5.0	10.0
1.50	38.0	10.5	8.0	7.5	4.0	4.0	2.0	7.0	2.0	5.5	11.5
1.60	40.5	12.0	8.0	7.5	4.5	4.5	2.0	8.0	2.0	5.5	13.0
1.85	47.0	14.0	9.0	8.5	5.0	3.5	2.0	12.5	2.0	6.0	15.0

TABLE 3 DIAMETERS AND CIRCUMFERENCES FOR CYLINDRICAL BEAD SEAT RIMS
(Clause 5)

Nominal Rim Dia Code	Specified Rim Dia	Specified Rim Circumference +2.0 -0.5	Tape Length	Tape Mandrel Diameter* +0 -0.05
16	405.6	1 274.2	1 277.28	406.2
17	433.3	1 361.2	1 364.31	433.9
18	458.7	1 441.0	1 444.11	459.3
19	484.1	1 520.8	1 523.90	484.7
22	558.8	1 755.5	1 758.57	559.4

Note — Measurements are to be made on rims ready for tyre mounting and individually on each bead seat.

*Tape mandrel is to check tape length. It includes the maximum tolerance of specified rim circumference.

7. General Requirements

7.1 The rims shall have a smooth contour free from sharp edges on the tyre side.

7.2 The holes for wire spokes shall be circular and free from burrs and sharp edges. These holes shall have uniform pitch. The spoke holes shall be equally spaced and shall be alternately on either side of the centre of the rim.

7.3 The valve hole shall be accurately punched or drilled centrally on the nose of the rim approximately opposite to joint of the rim and shall be at the centre of the two diverging spoke holes. This hole shall be clean, circular and free from burrs.

7.4 Starting with the highest point of the flange of well-base, the shaping of the flange contour towards the outer part of the rim is left to the discretion of the manufacturer but any increase in width of the rim flange above the minimum width shall be located lower than the highest point of the flange in order to facilitate tyre mounting.

7.5 The surface of the rim shall be free from any flaw, crack, crazing or any other similar structural defect.

7.6 Surface Treatment — The rim shall be nickel and chromium plated and the minimum thickness of plating on the significant surfaces shall conform to service Grade 3 of IS : 1068-1985 'Specification for electroplated coatings of nickel plus chromium and copper plus nickel plus chromium on iron and steel (second revision)'.

8. Marking

8.1 The rims shall be marked with the following in accordance with IS : 10694 (Part 1)-1984:

- Size designation, and
- Name or trade-mark of the rim manufacturer.

8.2 Certification Marking — Details available with the Bureau of Indian Standards.

TABLE 4 TAPE WIDTH FOR RIM MEASUREMENT
(Clause 5)

Nominal Rim Width Code	Tape Width (W)* mm
1.20	27.0
1.35	30.5
1.40	32.5
1.50	33.5
1.60	36.0
1.85	42.5

*Tape width (W) = Nominal rim width — 2R3 — negative tolerance value on rim width.

EXPLANATORY NOTE

This standard was first published in 1983 covering motorcycles and motorcycle derivative tyres. As a result of the experience gained in implementation of this standard as well as IS : 8410-1977 'Specification for rims for mopeds' and to keep pace with the technological developments, a need was felt to revise both these standards. Tyres, Tubes and Rims Sectional Committee decided to combine motorcycle and moped rims in one standard. On publication of this standard, IS : 8410-1977 will be withdrawn.

Production of tapered bead seat rims as given in Fig. 1 is gradually dying out in India but has been retained in the Indian Standard for reference during the transition period.

To avoid proliferation in size range, the use of 1.40 cylindrical bead seat rim, in place of 1.35 is being explored and, therefore, both the sizes have been included in the standard.

Previously, the rims were generally coded with WM codes which are given below only for information and shall not be used in future:

<i>Symbol</i>	<i>Nominal Rim Width (in Inches)</i>
WM0	1.50
WM1	1.60
WM2	1.85

For this Indian Standard, a reference has been made to ETRTO and JATMA data books and ISO 4249/3-1986 'Motorcycle tyres and rims (code designated series) — Part 3: Rims' and ISO/DIS-5995/2 'Moped tyres and rims — Part 2: Rims'.

Incorporation of strength and ovality for rims was also considered but because of lack of data the same has not yet been included.